5. (Amended) The filter of claim 1, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

6. (Amended) The filter of claim 1, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 $m^2/g$ and about 3000 $m^2/g$.

B2 cont'd

7. (Amended) The filter of claim 1, wherein the sum of the mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

8. (Amended) The filter of claim 1, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

9. (Amended) A filter for removing microorganisms from a fluid, comprising:

a) a housing having an inlet and an outlet; and

b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles comprising a carbonized and activated lignosulfonate coating, wherein the sum of mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

---

12. (Amended) The filter of claim 9, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 $m^2/g$ and about 3000 $m^2/g$.

B3

13. (Amended) The filter of claim 9, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

14. (Amended) The filter of claim 9, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

---

B4

16. (Amended) The filter of claim 9, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

17. (Amended) A filter for removing microorganisms from a fluid, comprising:

a) a housing having an inlet and an outlet; and

b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles comprising a carbonized and activated lignosulfonate coating, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is less than about 85% and wherein the BRI of said filter particles is greater than 99%, and wherein the sum of mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

B4 cont

26. (Amended) The filter of claim 17, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

B5

27. (Amended) The filter of claim 17, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

B6

29. (Amended) The filter of claim 17, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 $m^2/g$ and about 3000 $m^2/g$.

31. (Amended) The filter of claim 17, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

B7

32. (Amended) A filter for removing microorganisms from a fluid, comprising:

a) a housing having an inlet and an outlet; and

b) a filter material disposed within said housing, said filter material formed at least in part from a plurality of filter particles comprising a carbonized and activated lignosulfonate coating, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is less than about 85%, and wherein the BRI of said filter particles is greater than 99.9%, and the VRI of said filter particles is greater than about 95%, and wherein the sum of mesopore and macropore volumes of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.2 mL/g and about 2.2 mL/g.

B8

35. (Amended) The filter of claim 32, wherein the BET surface area of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 500 $m^2/g$ and about 3000 $m^2/g$.

B9

37. (Amended) The filter of claim 32, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of one or more of said carbonized and activated lignosulfonate coated filter particles is between about 0.3 and about 3.

B9 cont.

38. (Amended) A filter material for removing microorganisms from a fluid, comprising a filter particle comprising a carbonized and activated lignosulfonate coating.

41. (Amended) The filter material of claim 38, wherein the BET surface area of said carbonized and activated lignosulfonate coated filter particle is between about 500 $m^2/g$ and about 3000 $m^2/g$.

42. (Amended) The filter material of claim 38, wherein the sum of the mesopore and macropore volumes of said carbonized and activated lignosulfonate coated filter particle is between about 0.2 mL/g and about 2.2 mL/g.

B10

43. (Amended) The filter material of claim 38, wherein the ratio of the sum of the mesopore and macropore volumes to the micropore volume of said carbonized and activated lignosulfonate coated filter particle is between about 0.3 and about 3.

44. (Amended) The filter material of claim 38, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.1% and about 85%.

45. (Amended) The filter material of claim 38, wherein the carbon add-on in said carbonized and activated lignosulfonate coating is between about 0.5% and about 45%.

## REMARKS

The pending claims are 1-14, 16-29, 31-35, 37-45. Claims 15, 30, 36, and 46-52 have been cancelled without prejudice. Claims 1, 9, 17, 32, and 38 are the amended independent claims of those pending. Claims 4-8, 12-14, 16, 26, 27, 29, 31, 35, 37, and 41-45 are the amended dependent claims of those pending. Each of these amendments is fully supported by the specification and claims as originally filed and no new matter is believed or intended to be involved. Attached hereto is a marked-up version of the changes made to the specification entitled "**Version with markings to show changes made**", wherein additions have been underlined and deletions appear between brackets.

### I. Rejection Under 35 U.S.C. § 102(b)

Pending claims 1 and 2 are rejected under § 102(b) in the above-mentioned Office Action. The Office Action states that claims 1 and 2 are anticipated by U.S. Pat. No. 4,225,443 (herein, "*Harris*"). Applicants' claim 1 recites that filter particles are coated with a carbonized and activated lignosulfonate coating. Applicants teach that a carbonized coating may be achieved by using a non-air atmosphere (*See* page 11, lines 7-14; and page 16, lines 9 and 28). Also, Applicants teach that ne way of activating the carbonized coating may be via an additional heating step after carbonization (*See* page 11, line 23; page 16, lines 11 and 30). Independent claims 1, 9, 17, 32, and 38 have been amended to make clear that the coating